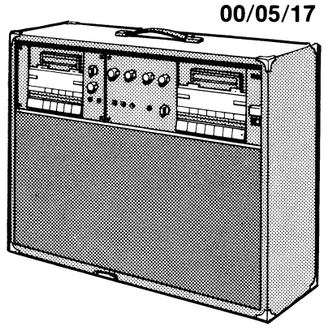
P2 5

Dual cassette recorder amplifier D6650

00/05/17

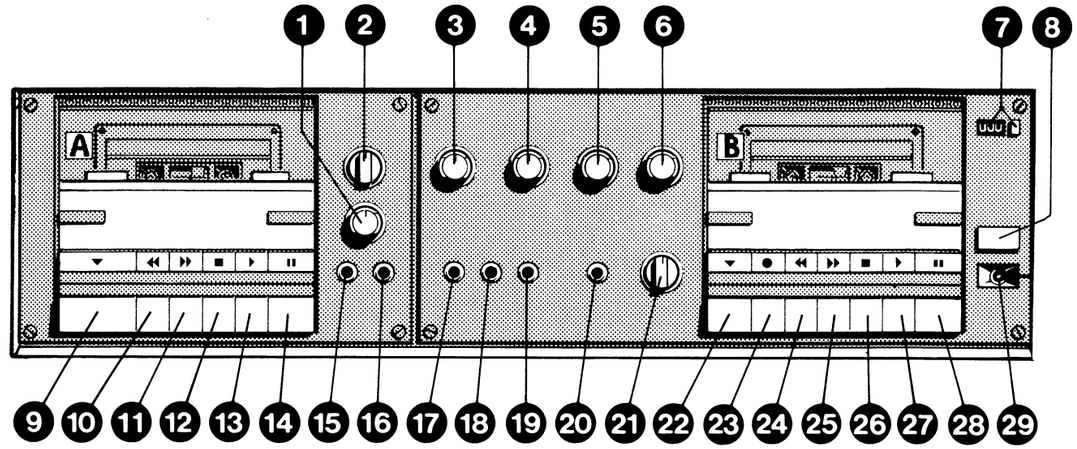
Service
Service
Service



35 316A12

For repair information of the cassette mechanism see Service Manual of "Recorders tape deck RTS-1", "RTS-13" and "RTS-14".

Service Manual



35 315A12

CONNECTIONS AND CONTROLS

1	Volume Tape A, Mic. A, B	R500	16	Micr. B socket	BU702
2	Pitch	R550	17	Micr. C socket	BU301
3	Volume master	R201	18	Guitar socket	BU302
4	Volume tape B	R202	19 AUX	Aux socket	BU303
5	Bass	R209	20	Line out, headphone socket	BU304
6	Treble	R212	21	Echo level	R308
7	Tape counter		22	Eject	
8	Power on/off switch	SK401	23	Recording	SK101
9	Eject		24	Rewind	SK102, 103
10	Rewind	SK1, 503, 504	25	Fast forward	SK102, 103
11	Fast forward	SK1, 503, 504	26	Stop	SK102, 103
12	Stop	SK1, 503, 504	27	Play	SK102, 103
13	Play	SK1, 503, 504	28	Pause	
14	Pause		29 V⎓	External supply DC	BU401
15	Micr. A socket	BU701			

SPECIFICATIONS

	120 V, 50/60 Hz 220 V, 50/60 Hz 240 V, 50/60 Hz for /05
V⎓	14 V

Frequency response

(within 8 dB)	80 Hz - 10 kHz
Tape speed	4.76 cm/sec ± 2%
Wow and flutter	⩽ 0.35%
Frequency response copy mode (within 10 dB)	80 Hz - 8 kHz
Pitch control deck A	±12% typ.

Input sensitivity

Mic. A, B, C	2 mV/ 2 kΩ	BU301
Guitar	20 mV/ 39 kΩ	BU302
Aux.	200 mV/470 kΩ	BU303

Output

Tape out	0-5 V/120 Ω	BU304
	4-600 Ω	BU304

Delay

Delay time	110 ms
Decay time	2 s

Adjustment	Cassette	Recorder in position	Measure on	Read on	Adjust with	Adjust to
Playback speed deck A	3150 Hz of SBC420*	PLAY PITCH-0	BU-304	Wow and flutter meter	R130	**a
Playback speed deck B	3150 Hz of SBC420*	PLAY	BU-304	Wow and flutter meter	Preset in motor deck B	**a
Azimuth R/P head	8 kHz of SBC420*	PLAY	BU-304	mV-meter	Left screw R/PB head	Max. output
Bias	—	REC	MP1	mV-meter	R118	≈ 7.5 mV
Delay clock suppression	—	Echo max. master volume max.	BU-304	mV-meter	R617	Minimum clock output

* SBC420: 4822 379 30071.
**a The maximum permissible speed deviation is 2%. Moreover, the wow-and-flutter value can be read. This value should not exceed 0.35%.

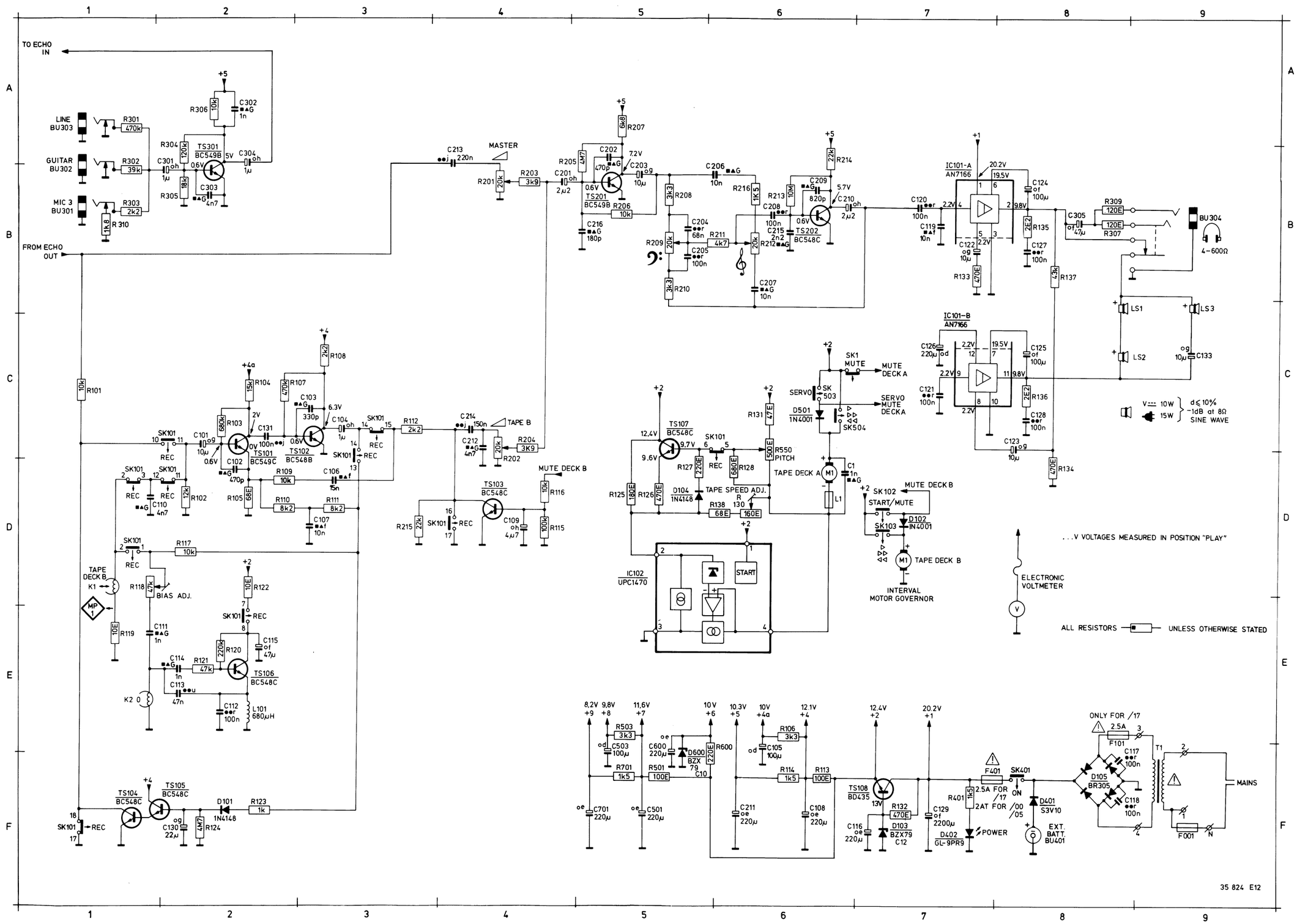
/17
"After servicing and before returning set to customer perform a leakage current or resistive measurement test from all exposed metal parts to earth ground to assure no shock hazard exist.
The leakage current must not exceed 0.5 mA".
For /17 read for 4822 ... . 4H ... .

DocumentationTechnique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification
4822 725 20305
Printed in The Netherlands

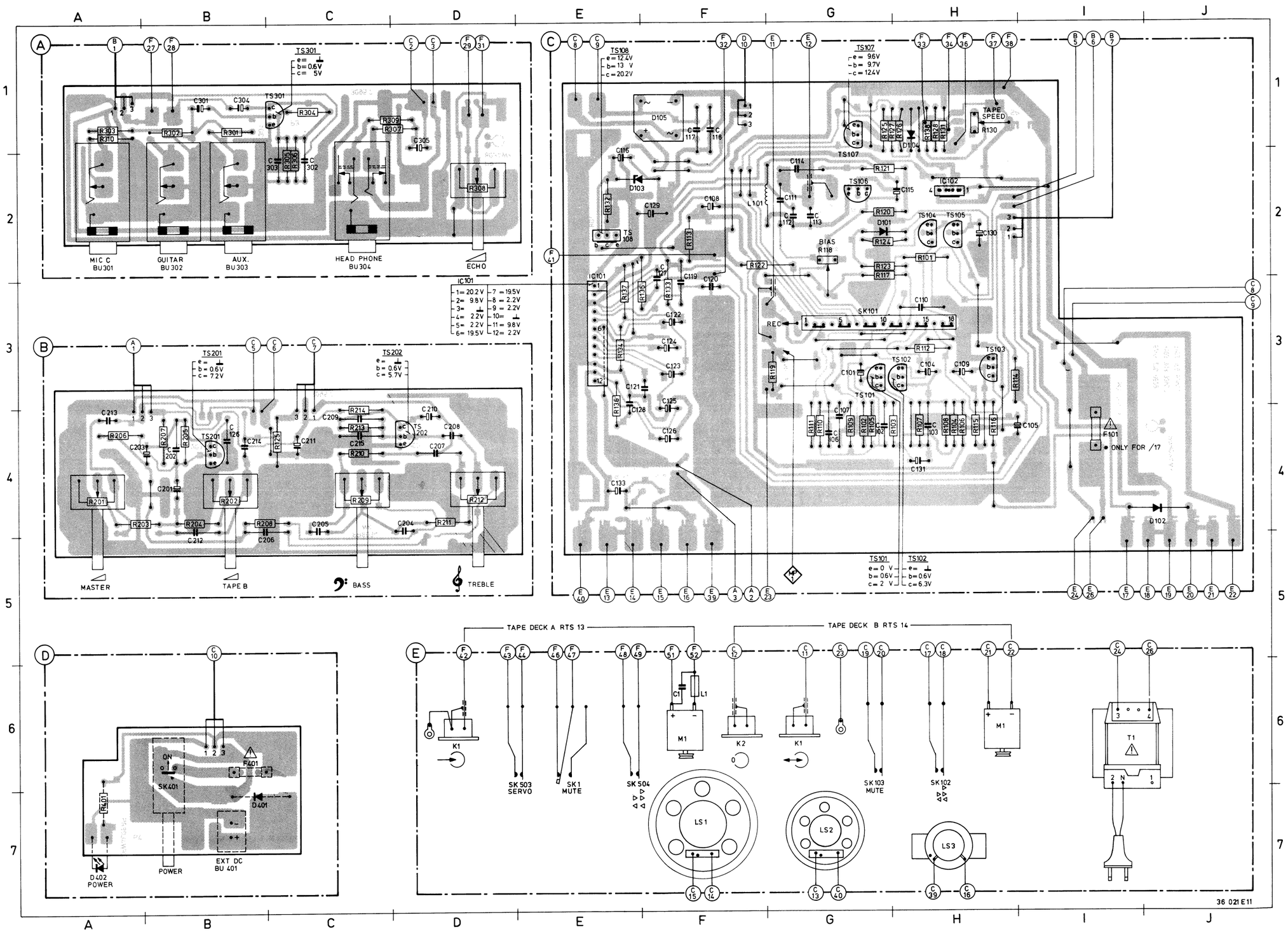
PHILIPS
Published by Audio/Video Service



K1	D01	LS1	C09	C102	D02	C107	D03	C112	E02	C117	F09	C122	B07	C127	B08	C133	C09	C205	B06	C210	B07	C215	B06	C304	A02	D101	F02	D401	F08	F001	F09	R101	C01	R106	E06	R111	D03	R116	D05
K2	E01	LS2	C09	C103	C03	C108	F06	C113	E02	C118	F09	C123	C08	C128	C08	C201	B05	C206	B06	C211	F06	C216	B05	C305	B08	D102	D07	D402	F08	F101	F08	R102	D02	R107	C03	R112	C03	R117	D02
M1A	D06	LS3	C09	C104	C03	C109	D04	C114	E02	C119	B07	C124	B08	C129	F07	C202	A05	C207	B06	C212	C04	C301	A02	C501	F05	D103	F07	D501	C06	F401	F08	R103	C02	R108	C03	R113	F06	R118	D02
M1B	D07	C001	D06	C105	E06	C110	D02	C115	E02	C120	B07	C125	C08	C130	F02	C203	B05	C208	B06	C213	A04	C302	A02	C503	E05	D104	D05	D600	F05	L001	D06	R104	C02	R109	D03	R114	F06	R119	E01
T1	F09	C101	C02	C106	D03	C111	E02	C116	F07	C121	C07	C126	C07	C131	C02	C204	B06	C209	B06	C214	C04	C303	B02	C600	E05	D105	F08	D701	F05	L101	E02	R105	D02	R110	D03	R115	D05	R120	E02

R121	E02	R126	D05	R132	F07	R137	B08	R204	C04	R209	B05	R214	A07	R304	A02	R310	B01	R600	F05	BU304	B09	TS102	C03	TS107	C05						
R122	D02	R127	D05	R133	B07	R138	D06	R205	A05	R210	B05	R215	D03	R305	B02	R401	F07	R701	F05	BU401	F08	TS103	D04	TS108	F07						
R123	F02	R128	D06	R134	D08	R201	B04	R206	B05	R211	B06	R301	A01	R306	A02	R501	F05	BU301	B01	IC101	B07	TS104	F01	TS201	B05						
R124	F02	R130	D06	R135	B08	R202	C04	R207	A05	R212	B06	R302	B01	R307	B08	R503	E05	BU302	B01	IC102	D05	TS105	F02	TS202	B06						
R125	D05	R131	C06	R136	C08	R203	B04	R208	B05	R213	B06	R303	B01	R309	B08	R550	C06	BU303	A01	TS101	C02	TS106	E02	TS301	A02						

CS 96 549



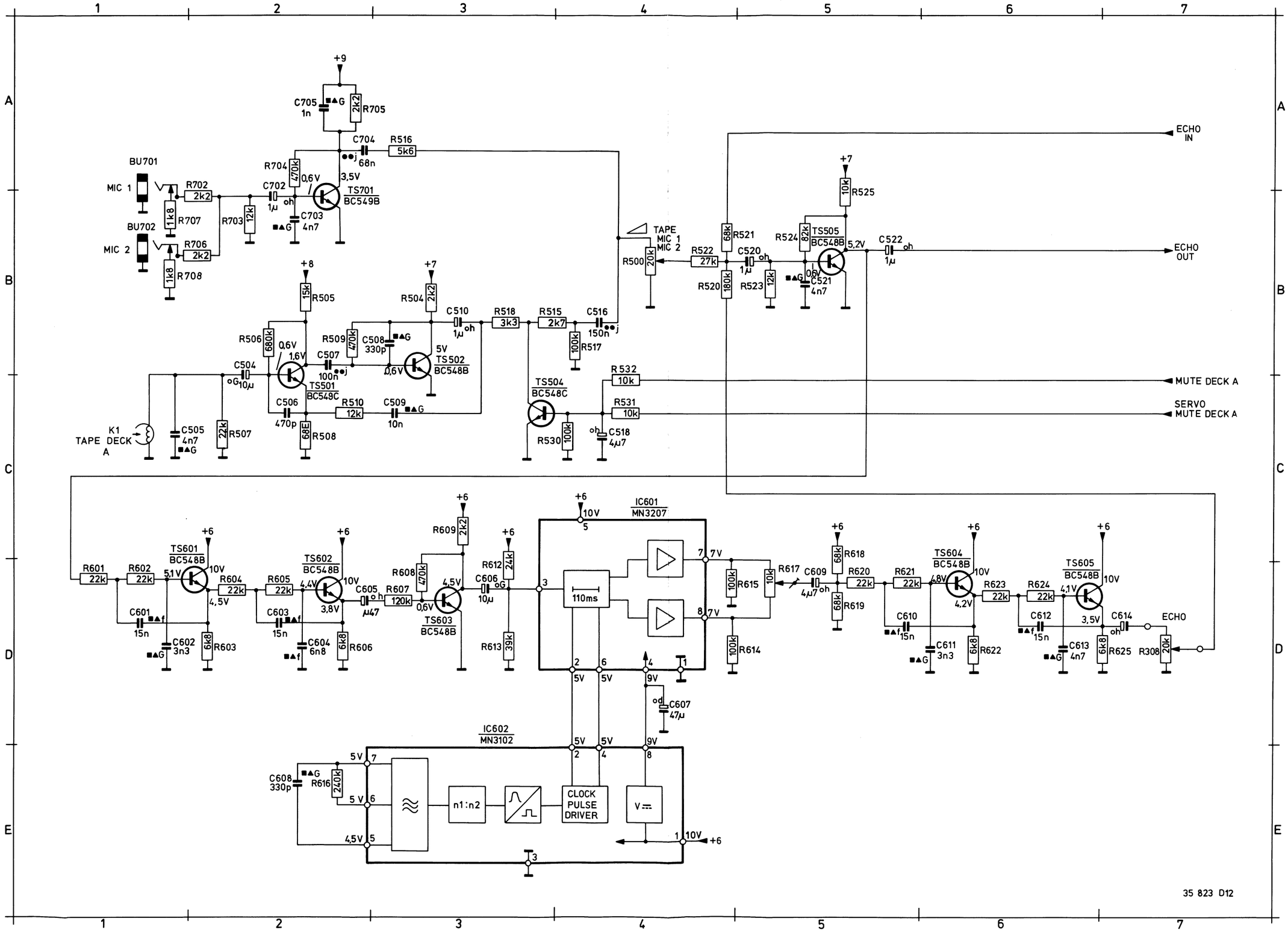
K1A	D06	T1	I06	C101	G03	C106	G04	C111	G02	C116	E02	C121	E03	C126	F04	C131	H04	C204	D04
K1B	G06	LS1	F07	C102	G04	C107	G04	C112	G02	C117	F01	C122	F03	C127	F02	C133	E04	C205	C04
K2	F06	LS2	G07	C103	H04	C108	F02	C113	G02	C118	F01	C123	F03	C128	E04	C201	B04	C206	B05
M1A	F06	LS3	H07	C104	H03	C109	H03	C114	G02	C119	F03	C124	F03	C129	F02	C202	B04	C207	D04
M1B	H06	C001	F06	C105	H04	C110	H03	C115	H02	C120	F03	C125	F03	C130	H02	C203	B04	C208	D04

R127	G01	R133	F03	R138	H01	R205	B04	R210	C04	R215	C04	R305	C02	R310	A01	BU304	C02	SK101	G03
R128	H01	R134	E03	R201	A04	R206	A04	R211	D04	R301	B01	R306	C02	R401	A07	BU401	B07	SK102	H06
R130	H01	R135	F03	R202	B04	R207	B04	R212	D04	R302	B01	R307	D01	BU301	A02	IC101	E03	SK103	G06
R131	H01	R136	E03	R203	A04	R208	B04	R213	C04	R303	A01	R308	D02	BU302	B02	IC102	H02	SK401	B06
R132	E02	R137	E03	R204	B04	R209	C04	R214	C04	R304	C01	R309	C01	BU303	B02	SK001	E06	SK503	D06

C209	C04	C214	B04	C303	C02	D103	E02	F101	I04	R102	G04	R107	H04	R112	H03	R117	G02	R122	F02
C210	D04	C215	C04	C304	B01	D104	H01	F401	B06	R103	G04	R108	H04	R113	F02	R118	G02	R123	G02
C211	C04	C216	B04	C305	D01	D105	F01	L001	F06	R104	H04	R109	G04	R114	H03	R119	G03	R124	G02
C212	B05	C301	B01	D101	G02	D401	B07	L101	F02	R105	G04	R110	G04	R115	H04	R120	G02	R125	G01
C213	A04	C302	C02	D102	J04	D402	A07	R101	H02	R106	H04	R111	G04	R116	H04	R121	G02	R126	H01

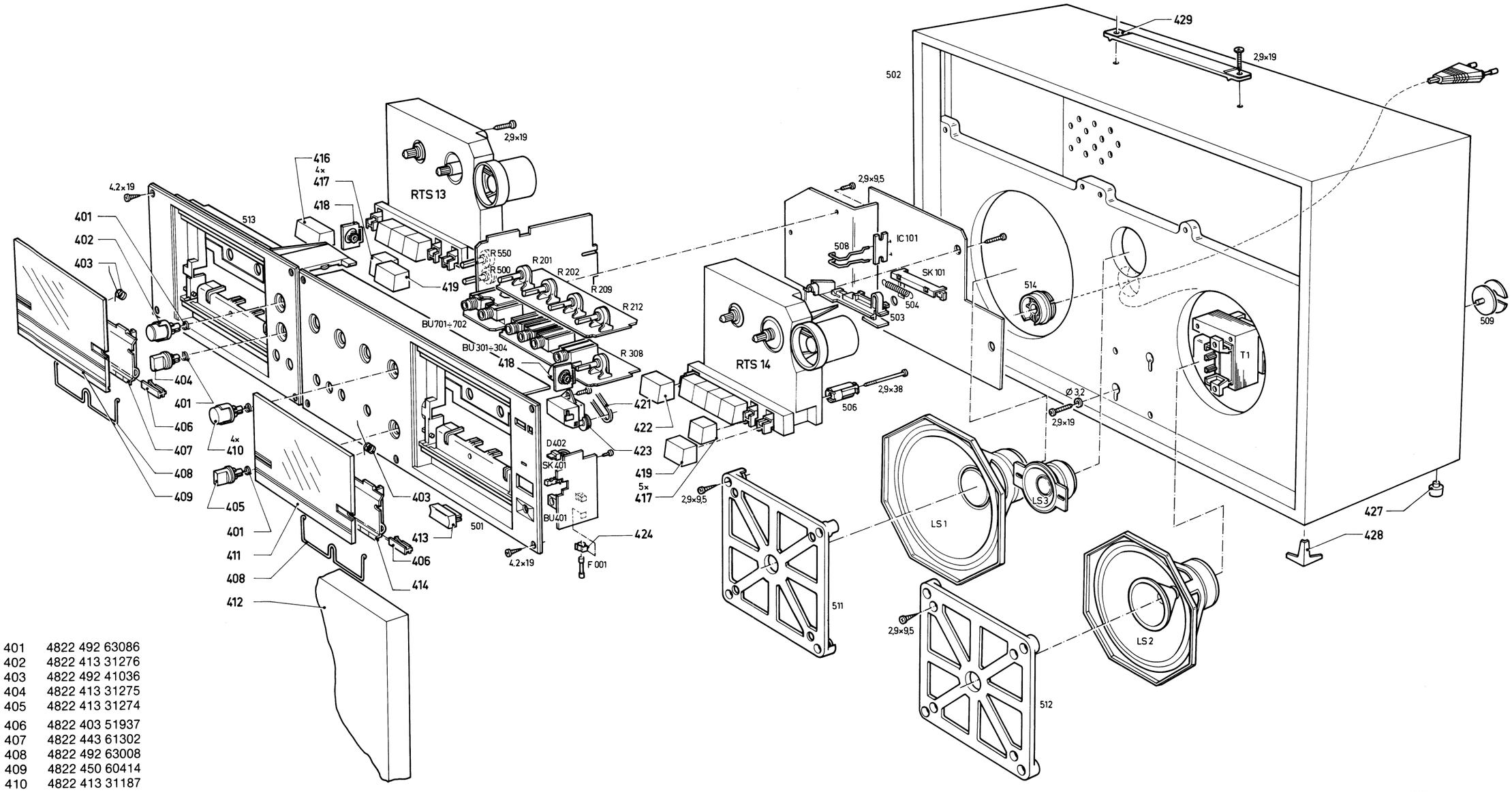
SK504	E06	TS105	H02	TS202	D04
TS101	G03	TS106	G02	TS301	C01
TS102	H03	TS107	G01		
TS103	H03	TS108	E02		
TS104	H02	TS201	B04		

CS 96 550



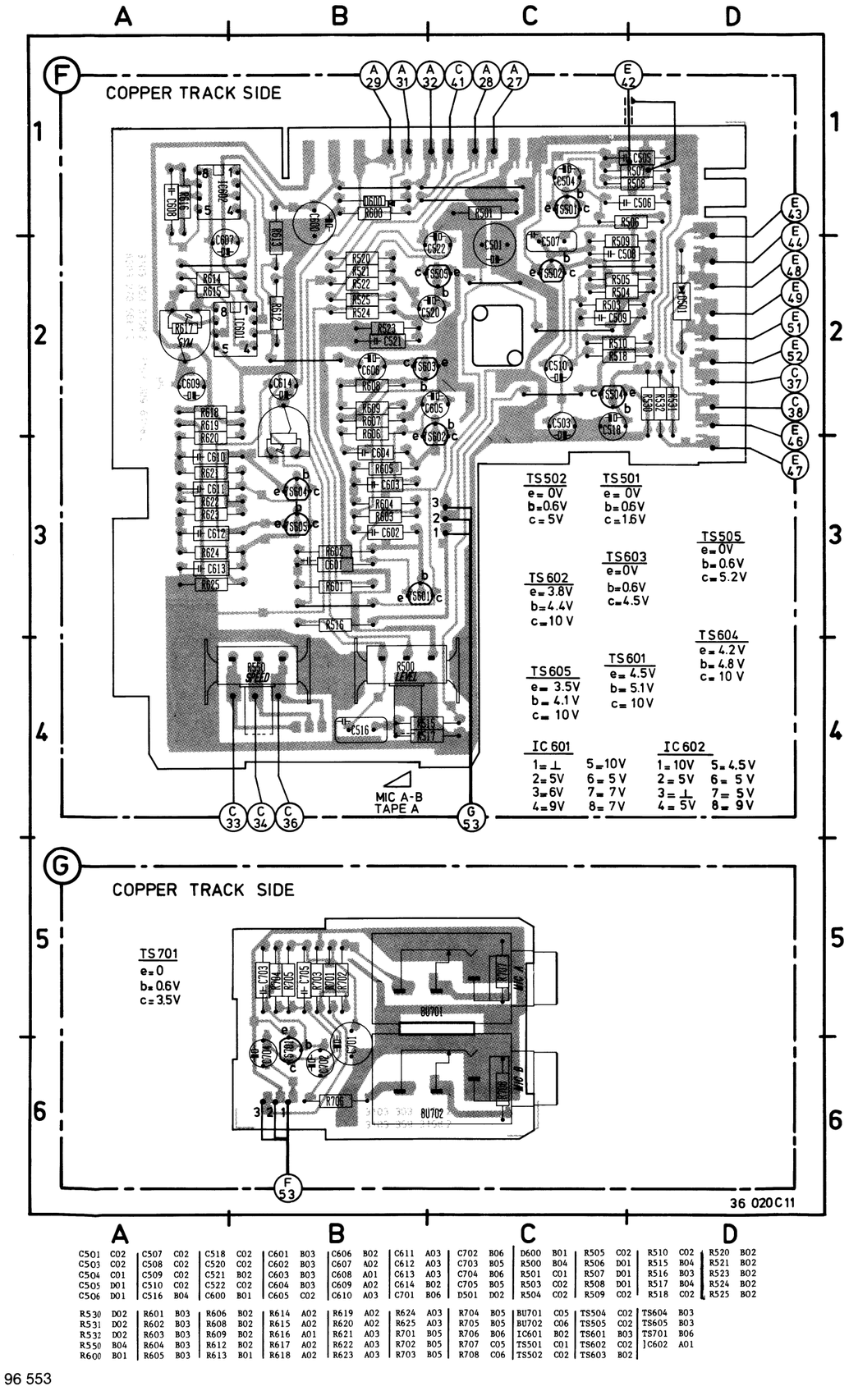
K1A	C01	C508	B03	C520	B05	C603	D02	C608	E02	C613	D06	C705	A02	R506	B02	R515	B03	R521	B05
C504	B02	C509	C03	C521	B05	C604	D02	C609	D05	C614	D07	R308	D07	R507	C02	R516	A03	R522	B04
C505	C02	C510	B03	C522	B05	C605	D02	C610	D05	C702	A02	R500	B04	R508	C02	R517	B04	R523	B05
C506	C02	C516	B04	C601	D01	C606	D03	C611	D06	C703	B02	R504	B03	R509	B02	R518	B03	R524	B05
C507	B02	C518	C04	C602	D01	C607	D04	C612	D06	C704	A02	R505	B02	R510	C02	R520	B04	R525	B05

R530	C04	R603	D02	R608	D03	R615	D05	R620	D05	R625	D07	R706	B02	IC601	C04	TS505	B05	TS605	D06
R531	C04	R604	D02	R609	C03	R616	E02	R621	D05	R702	A02	R707	B01	IC602	D03	TS601	D01	TS701	B02
R532	B04	R605	D02	R612	D03	R617	D05	R622	D06	R703	B02	R708	B01	TS501	C02	TS602	D02		
R601	D01	R606	D02	R613	D03	R618	C05	R623	D06	R704	A02	BU701	A01	TS502	B03	TS603	D03		
R602	D01	R607	D03	R614	D05	R619	D05	R624	D06	R705	A02	BU702	B01	TS504	C03	TS604	C06		



401	4822 492 63086
402	4822 413 31276
403	4822 492 41036
404	4822 413 31275
405	4822 413 31274
406	4822 403 51937
407	4822 443 61302
408	4822 492 63008
409	4822 450 60414
410	4822 413 31187
411	4822 450 60415
412	4822 445 30096
413	4822 410 23534
414	4822 443 61301
416	4822 410 23533
417	4822 410 23095
418	4822 535 70618
419	4822 410 23096
421	4822 321 30294
422	4822 410 23097
423	4822 349 50196
424	4822 492 62373
427	4822 462 40607
428	4822 462 40622
429	4822 498 10186

36065 E14


COPPER TRACK SIDE
TS502 e=0V b=0.6V c=5V
TS501 e=0V b=0.6V c=1.6V
TS505 e=0V b=0.6V c=5.2V
TS603 e=0V b=0.6V c=4.5V
TS602 e=3.8V b=4.4V c=10V
TS604 e=4.2V b=4.8V c=10V
TS601 e=4.5V b=5.1V c=10V
TS605 e=3.5V b=4.1V c=10V
IC601 1=⊥ 2=5V 3=6V 4=9V 5=10V 6=5V 7=7V 8=7V
IC602 1=10V 2=5V 3=⊥ 4=5V 5=4.5V 6=5V 7=5V 8=9V
MIC A-B TAPE A
COPPER TRACK SIDE
TS701 e=0 b=0.6V c=3.5V
36 020C11

A								B								C								D			
C501	C02	C507	C02	C518	C02	C601	B03	C606	B02	C611	A03	C702	B06	D600	B01	R505	C02	R510	C02	R520	B02
C503	C02	C508	C02	C520	C02	C602	B03	C607	A02	C612	A03	C703	B05	R500	B04	R506	D01	R515	B04	R521	B02
C504	C01	C509	C02	C521	B02	C603	B03	C608	A01	C613	A03	C704	B06	R501	C01	R507	D01	R516	B03	R523	B02
C505	D01	C510	C02	C522	C02	C604	B03	C609	A02	C614	B02	C705	B05	R503	C02	R508	D01	R517	B04	R524	B02
C506	D01	C516	B04	C600	B01	C605	C02	C610	A03	C701	B06	D501	D02	R504	C02	R509	C02	R518	C02	R525	B02
R530	D02	R601	B03	R606	B02	R614	A02	R619	A02	R624	A03	R704	B05	BU701	C05	TS504	C02	TS604	B03
R531	D02	R602	B03	R608	B02	R615	A02	R620	A02	R625	A03	R705	B05	BU702	C06	TS505	C02	TS605	B03
R532	D02	R603	B03	R609	B02	R616	A01	R621	A03	R701	B05	R706	B06	IC601	B02	TS601	B03	TS701	B06
R550	B04	R604	B03	R612	B02	R617	A02	R622	A03	R702	B05	R707	C05	TS501	C01	TS602	C02	]C602	A01
R600	B01	R605	B03	R613	B01	R618	A02	R623	A03	R703	B05	R708	C06	TS502	C02	TS603	B02

CS 96 553

-R-

R118	Trimpot. 47 kΩ	4822 100 10079
R130	Trimpot. 160 Ω	4822 100 10486
R201,R202	Volume 20 kΩ	4822 101 20117
R209	Bass 20 kΩ	4822 100 30043
R212	Treble 20 kΩ	4822 100 30043
R308	Volume 20 kΩ	4822 101 30043
R500	Volume 20 kΩ	4822 100 20117
R550	Pitch 500 Ω	4822 100 30044
R617	Trimpot. 10 k	4822 100 10035

-D-

BZX79-B10	4822 130 34297
BZX79-B12	4822 130 34197
GL9PR9	4822 130 31432
S3V20	4822 130 41172
S4VB-20	4822 130 31007
1N4001G	4822 130 31438
1N4148	4822 130 30621

-TS-

BC548B	4822 130 40937
BC548C	4822 130 44196
BC549B	4822 130 40936
BC549C	4822 130 44246
BD437	4822 130 40982

-IC-

AN7166	4822 209 81503
MN3102	4822 209 82098
MN3207	4822 209 81872
UPC1470H	4822 209 50107

-SK-

SK101	REC/PB switch	4822 277 30669
SK401	Power on/off switch	4822 276 11279

-Miscellaneous-

BU301÷303, 701,702		4822 267 30345
BU304	Headphone socket	4822 267 30385
BU401	Ext. DC socket	4822 267 30431
L101	680 μH	5322 157 51718
LS1	AD80800/P4	4822 240 60174
LS2	AD70850M4	4822 240 50181
LS3	Tweeter	4822 240 30262
⚠ T1	220 V	4822 145 30293
⚠ T1 for /05	240 V	4822 145 30294
⚠ T1 for /17	120 V	4822 145 30299
⚠ F101 /17	2,5 A MT4	4822 253 30026
⚠ F401 /17	2,5 A MT4	4822 253 30026
⚠ F401	T2A	4822 253 30025
⚠ F1	Thermal fuse	4822 252 20007

Carbon film 0.2 W 70°C 5%

Carbon film 0.33 W 70°C 5%

Metal film 0.33 W 70°C 5%

Carbon film 0.5 W 70°C 5%

Carbon film 0.67 W 70°C 5%

Carbon film 1.15 W 70°C 5%

Ⓒ Chip component

Ceramic plate Tuning ⩽ 120 pF NP.0 2%, Others −20/+80%

Polyester flat foil 10%

Metalized polyester flat film 10%

Polyester flat foil small size (Mylar) 10%

Polysterene film/foil 1%

Tubular ceramic

Miniature single

Subminiature tantalum ± 20%

*a	= 2,5 V
b	= 4 V
c	= 6,3 V
d	= 10 V
e	= 16 V
f	= 25 V
g	= 40 V
h	= 63 V
j	= 100 V
l	= 125 V
m	= 150 V
n	= 160 V
q	= 200 V
r	= 250 V
s	= 300 V
t	= 350 V
u	= 400 V
v	= 500 V
w	= 630 V
x	= 1000 V
A	= 1,6 V
B	= 6 V
C	= 12 V
D	= 15 V
E	= 20 V
F	= 35 V
G	= 50 V
H	= 75 V
I	= 80 V

27 037A/C

(GB) Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(D) Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(NL) Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(I) Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

(F) Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.